

PATENT

Atty Docket No.: 200313156-1
App. Ser. No.: 10/673,134

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the claim amendments and following remarks. Claims 1-15 and 17-32 are pending in the present application of which claims 1, 15, and 27 are independent. Claims 31 and 32 are new.

Claim 6 is objected to as including allowable subject matter but being dependent on a rejected base claim.

Claims 1-5 and 7-30 were rejected under 35 U.S.C. § 102(e) as being anticipated by Wareham et al. (U.S. Patent Application Number 2004/0075343) (referred to as Wareham).

The above rejections are respectfully traversed for at least the reasons set forth below.

Claim Rejection Under 35 U.S.C. §102

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

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Claims 1-5 and 7-30 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Wareham. This rejection is respectfully traversed because the claimed invention as set forth in claims 1, 15, 27, and the claims that depend therefrom are patentably distinguishable over Wareham.

Claim 1 has been amended to recite

calculating ~~determining~~ a new load demand to be placed on the at least one power system component based on a load demand on at least one other functioning power system component of the plurality of power system components in response to determining the load demand on the at least one power system component needs to be varied; and

controlling the load demand on the at least one power system component to be ~~substantially~~ equal to the calculated ~~determined~~ new load demand and the load demand on the at least one other functioning power system component.

Wareham discloses a system for power load management. The system discloses a single power supplier, either a service power connection or an alternate power source, supplying power through an electrical distribution panel. The system also includes load control switches for controlling the load supplied by the electrical distribution panel. Wareham's disclosure is directed to controlling the load through the electrical distribution panel in order to ensure that an over current condition is not imposed on the alternate power source or the power service connection. Wareham fails to disclose any component or method for balancing loads between two or more power system components.

The rejection of independent claim 1 cites paragraph 59 of Wareham to teach controlling the load demand to be substantially equal to the determined new load demand. load balancing. However, this passage discloses that loads are prioritized. If a capacity is exceeded, a load control algorithm maximizes a user convenience by maintaining high priority loads and shedding low priority loads. For example, certain household loads may be

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given higher priority than other household loads, and the lower priority loads may be disconnected first if a capacity is exceeded. See paragraph 29, lines 1-7. However, the load demands on power system components are not balanced or made equal. Shedding a load when a capacity is exceeded prevents an overload situation but does not balance loads or make loads equal.

In the Response To Arguments section of the office action, the Examiner states,

Applicant's arguments filed 5/9/2005 have been fully considered but they are not persuasive. Applicant is reminded that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification." In this instance applicant argues that the prior art of record fails to teach determining a new load demand to be placed on the at least one power system component based on a load demand on at least one other functioning power system; (Pages 3-4, paragraph 0048) [a system monitor determines the load priority of various components in a system depending on different factors, and accordingly adjusts the loads based on that priority, therefore assigning a new load value to the different components in the system], dividing the total load demand substantially equally among the plurality of power system components (Pages 4, paragraph 0057) and load balancing or making loads substantially equal. (Pages 4, paragraph 0057) [The system taught by Wareham varies the loads depending on priority, therefore balancing the system in order to prevent an overload. It should also be noted that the word 'substantially' is an indefinite term.].

The Examiner alleges that Wareham assigns a new load value by adjusting loads based on priority. However, claim 1 now recites, "calculating a new load demand to be placed on the at least one power system component." Support for calculating a new load demand is provided, for example, on page 7, lines 1-15, page 13, lines 18-21, and in other embodiments disclosed in the Applicants specification. Wareham fails to teach calculating a new load demand. Instead, Wareham may shed a load based on the loads priority when a capacity is exceeded. However, no new loads are calculated.

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In addition, claim 1 now recites, "controlling the load demand on the at least one power system component to be substantially equal to the calculated ~~determined~~ new load demand and the load demand on the at least one other functioning power system component." In the Response to Arguments section, the Examiner states, "The system taught by Wareham varies the loads depending on priority, therefore balancing the system in order to prevent an overload. It should also be noted that the word 'substantially' is an indefinite term."

Wareham fails to teach controlling load demand to be equal to the calculated load demand and a load demand of another component. The balancing allegedly taught by Wareham comprises shedding loads based on a priority but does not include calculating load demands or making load demands on system components equal.

Independent claim 15 recites,

a load manager calculating loads demands to be placed on the first set of components based on a load balancing scheme and
controlling load demands on the first set of the power system components to be equal to the calculated load demands.

Wareham fails to teach determining a new load to be placed on the power system component. No determination of on an amount of load to be placed on a power system component is taught. Furthermore, Wareham fails to teach calculating load demands as described above.

Independent claim 27 recites,

means for calculating new load demands to be placed on the plurality of power system components in response to determining the load demands need to be varied; and

means for controlling the load demands on the plurality of power system components to be equal to the calculated new load demands such that the new load demands on the plurality of power system components are balanced.

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As described above, Wareham fails to teach means for calculating load demands to be placed on a plurality of power system components. No calculating is performed in Wareham. Instead, Wareham appears to disclose simply shedding loads, such as removing power to a load rather than calculating a new load to be placed on a power system component.

For at least these reasons, claims 1-15 and 17-32 are believed to be allowable.

Furthermore, in addition to Wareham failing to teach many of the features of independent claims 1, 15 and 27, Wareham fails to teach many feature of the dependent claims.

Claim 3 recites, "dividing the total load demand equally among the plurality of power system components." This feature is not taught by Wareham

Claim 7 recites, "determining whether a request to change the load demand of the at least one power system component is received." Claim 8 recites a maintenance-related request. No requests to change a load demand are received in Wareham

Claim 9 recites determining new load demands ... in response to load demands being unbalanced. Wareham discloses shedding loads to ensure that an over current condition is not imposed on the alternate power source or the power service connection. Determining whether an over current condition occurs is not the same as determining whether load demands are unbalanced. An over current condition may still occur if load demands are balanced, for example, if the total load demand exceeds the capacity of the power source.

The data center in claim 13 is not taught by Wareham

Claim 17 recites, "modeling the power system in different failure states." This is similar to claim 6 which was objected to as including allowable subject matter. Accordingly, claim 17 is also believed to be allowable.

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Claim 21 recites, "the fast transfer load transfer device controlling load demand on the one power system component in response to detecting an over loading on the one power system component." Claim 30 recites "fast load transfer means". These features are also not taught by Wareham

Newly Added Claims

Claims 31 and 32 are newly added. Claim 31 recites a first set of power system components and second set of power system components receiving power from the first set of power system components. The load demand manager is operable to send control data to both the first and second set of power system components to control the load demands on the respective set of power set components.

According to an embodiment, a grid power system, such as shown in figure 1 of the Applicants' specification, includes sets of components at different levels, such as UPSs, PDUs, and systems provided at different levels. The load manager is operable to send control data to components on multiple levels to control load demands. Wareham fails to teach this feature. Wareham discloses an electrical distribution panel connected to a load management controller but fails to teach sending control data to components in different levels of a grid, which may include a first set of power system components and second set of power system components receiving power from the first set of power system components.

Claim 32 recites, "determining a total load demand on the first set of components; and dividing the total load demand equally among the first set of components." As described above, Wareham fails to teach a load balancing scheme where total load demand is divided equally among components.

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Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

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By



Ashok K. Mannava

Registration No.: 45,301

MANNAVA & KANG, P.C.
8221 Old Courthouse Road
Suite 104
Vienna, VA 22182
(703) 652-3822
(703) 880-5270 (facsimile)